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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/559,643

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EXAMINER

THOMPSON, JAMES A

ART UNIT

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/559,643	<b>Applicant(s)</b> BOYCE ET AL.	
	<b>Examiner</b> James A. Thompson	<b>Art Unit</b> 2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 December 2005 and 16 June 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/2/05, 6/16/10</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. As discussed in the Examiner's Interview of 28 June 2010, the restriction requirement of 04 June 2010 is rendered moot.

### ***Information Disclosure Statement***

2. The Information Disclosure Statements of 16 June 2010 and 02 December 2005 have been fully considered. Signed, dated and initialed copies are included with the present action.

### ***Claim Rejections - 35 USC § 101***

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claim 12 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 12 recites a compressed digital video signal. A video signal is simply data, and is not a process, machine, article of manufacture, or composition of matter, and is thus non-statutory.

### ***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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6. Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 6 recites “means for decoding redundant picture syntax in compliance with the ITU-T H.264 [also ISO/[EC MPEG 14496-10?] standard.” The recited language questions whether ISO/[EC MPEG 14496-10] standard is to be applied. Thus, the language is vague and indefinite.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**8. Claims 1, 3, 4 and 7-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Reitmeier (US-6,118,498).**

**Regarding claim 1:** Reitmeier discloses a video decoder for receiving compressed stream data and providing decompressed video output (figure 1 and column 4, lines 43-49 of Reitmeier), the decoder comprising: a demultiplexor for receiving the compressed stream data and separating the normal stream and the channel change stream (figure 3(324) and column 9, line 63 to column 10, line 5 of Reitmeier – *see also column 4, lines 46-49 of Reitmeier which shows that the stream data is compressed stream data*); a normal decoding portion in signal communication with the demultiplexor for selectably receiving at least one of the compressed normal and channel change streams (figure 3(328) and column 10, lines 3-12 of Reitmeier), and

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providing decompressed video output (column 4, lines 47-49 of Reitmeier); and at least one normal frame store in signal communication with the normal decoding portion for storing reference pictures (figure 1(34) and column 5, lines 61-65 of Reitmeier).

**Regarding claim 3:** Reitmeier discloses a post-processing filter in signal communication with the normal decoding portion for post-processing decompressed video data and selectably outputting said data to at least one of the at least one normal frame store and a display (column 5, lines 1-9 of Reitmeier).

**Regarding claim 4:** Reitmeier discloses means for selecting a compressed picture to decode from one of a normal stream and a channel change stream (column 4, lines 43-49 of Reitmeier).

**Regarding claim 7:** Reitmeier discloses means for decoding channel change pictures from user data of corresponding normal stream pictures (column 10, lines 9-27 of Reitmeier – *user data regarding the different normal picture streams, such as “next” and “recent-1”, is used in decoding channel change pictures*).

**Regarding claim 8:** Reitmeier discloses means for responding to a signal from an encoder indicating whether to use normal stream or channel change stream pictures for subsequent channel change stream intra-coded pictures (column 5, lines 1-6 and lines 16-22 of Reitmeier – *selected mode determines which stream is used*).

**Regarding claim 9:** Reitmeier discloses means for post-processing the output of the normal decoder to reduce the abruptness of a transition from lower-quality to normal quality output (column 5, lines 37-43 of Reitmeier).

**Regarding claim 10:** Reitmeier discloses a video decoding method for receiving compressed stream data and providing decompressed video output (figure 1 and column 4, lines 43-49 of Reitmeier), the method comprising: receiving the compressed stream data and separating the normal stream and the channel change stream (figure 3(324) and column 9, line 63 to column 10, line 5 of Reitmeier – *see also column 4, lines 46-49 of Reitmeier which shows that the stream data is compressed stream data*); receiving at least one of the compressed normal and channel change streams (figure 3(328) and column 10, lines 3-12 of Reitmeier), and providing decompressed video output (column 4, lines 46-49 of Reitmeier); and storing reference pictures for use in decoding inter-coded pictures (figure 1(34) and column 5, lines 61-65 of Reitmeier).

**Regarding claim 11:** Reitmeier discloses at least one of: selecting a compressed picture to decode from one of a normal stream and a channel change stream (column 4, lines 43-49 of Reitmeier); up-sampling lower resolution channel change stream pictures; decoding redundant picture syntax in compliance with the JVT standard; decoding channel change pictures from user data of corresponding normal stream pictures (column 10, lines 9-27 of Reitmeier – *user data regarding the different normal picture streams, such as “next” and “recent-1”, is used in decoding channel change pictures*); responding to a signal from an encoder indicating whether to use normal stream or channel change stream pictures for subsequent channel change stream intra-coded pictures (column 5, lines 1-6 and lines 16-22 of Reitmeier – *selected mode determines which stream is used*); and post-processing the output of the normal decoder to reduce the abruptness of a transition from lower-quality to normal quality output (column 5, lines 37-43 of Reitmeier) (*claim requires “at least one of” and more than one of is taught by Reitmeier*).

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**Regarding claim 12:** Reitmeier discloses a compressed digital video signal comprising: a first plurality of block transform coefficients corresponding to a normal video quality stream; and a second plurality of block transform coefficients corresponding to a channel change stream (figure 3(324); column 2, lines 59-62; and column 9, line 63 to column 10, line 5 of Reitmeier – *MPEG-1 and MPEG-2 use block transform coefficients for video streams*).

### ***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**10. Claims 2 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reitmeier (US-6,118,498) in view of Brooks (US-7,143,432).**

**Regarding claim 2:** Reitmeier discloses a lower-resolution decoding portion in signal communication with the demultiplexor for receiving the compressed channel change stream (figure 1(32) and column 6, lines 4-16 of Reitmeier); at least one channel change frame store in signal communication with the lower-resolution decoding portion for storing reference pictures (figure 1(34) and column 5, lines 61-65 of Reitmeier).

Reitmeier does not disclose expressly an up-sampling unit in signal communication with the lower-resolution decoding portion for up-sampling decompressed video data and selectably outputting said data to at least one of the at least one normal frame store and a display.

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Brooks discloses an up-sampling unit in signal communication with the lower-resolution decoding portion for up-sampling decompressed video data and selectably outputting said data to at least one of the at least one normal frame store and a display (figure 6A(860) and column 18, lines 8-18 of Brooks).

Reitmeier and Brooks are analogous art because they are from the same field of endeavor, namely control, processing and output of digital video image data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to up-sample the decompressed video data before outputting to a display, as taught by Brooks. The motivation for doing so would have been to provide a better output video by matching the characteristics of the display. Therefore, it would have been obvious to combine Brooks with Reitmeier to obtain the invention as specified in claim 2.

**Regarding claim 5:** Reitmeier does not disclose expressly means for up-sampling lower resolution channel change stream pictures.

Brooks discloses means for up-sampling lower resolution stream pictures (figure 6A(860) and column 18, lines 8-18 of Brooks).

Reitmeier and Brooks are analogous art because they are from the same field of endeavor, namely control, processing and output of digital video image data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to up-sample the video data before outputting to a display, as taught by Brooks. By combination with Reitmeier, the stream pictures would be the channel change stream pictures. The motivation for doing so would have been to provide a better output video by matching the characteristics of the display.



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Therefore, it would have been obvious to combine Brooks with Reitmeier to obtain the invention as specified in claim 5.

**11. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Reitmeier (US-6,118,498) in view of well-known prior art.**

**Regarding claim 6:** Reitmeier discloses means for decoding redundant picture syntax (column 9, lines 1-14 of Reitmeier).

Reitmeier does not disclose expressly that the decoding is in compliance with the ITU-T H.264 and ISO/[EC MPEG 14496-10] standards.

**Official Notice is taken** that the ITU-T H.264 and ISO/[EC MPEG 14496-10] standards are old, well-known and expected in the art. The use of a particular standard is necessary for the actual implementation of a video encoding/decoding scheme. The ITU-T H.264 and ISO/[EC MPEG 14496-10] standards are simply commonly-used standards that one of ordinary skill in the art at the time of the invention would have been able to apply to the invention. Therefore, it would have been obvious to combine the well-known prior art with Reitmeier to obtain the invention as specified in claim 6.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A. Thompson whose telephone number is (571)272-7441. The examiner can normally be reached on 8:30AM-5:00PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward L. Coles can be reached on 571-272-7402. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/James A Thompson/  
Primary Examiner, Art Unit 2625

21 July 2010